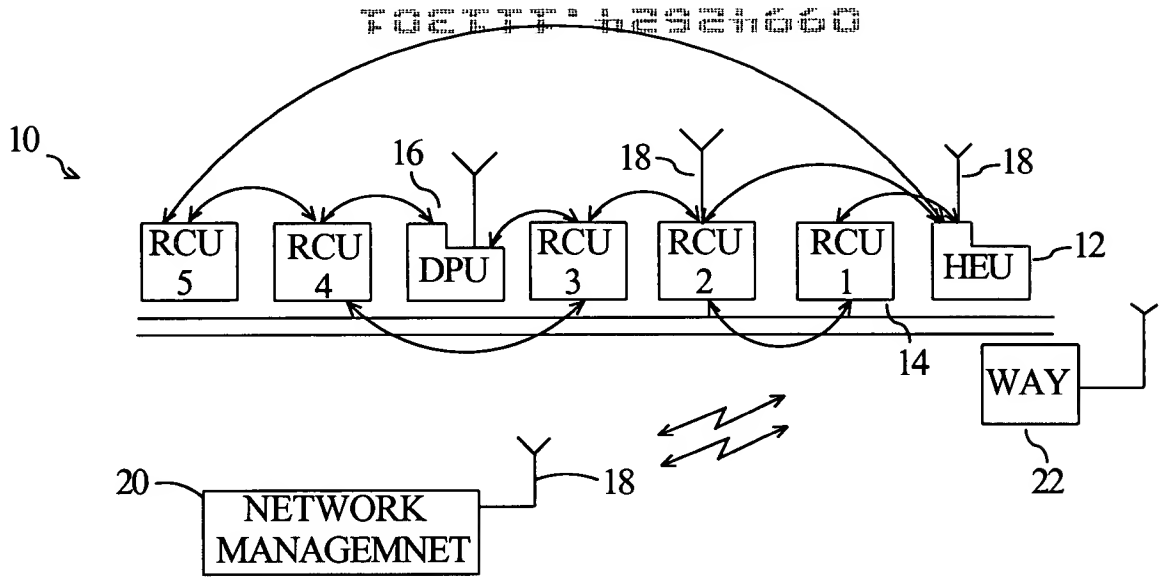

FIGURE 1

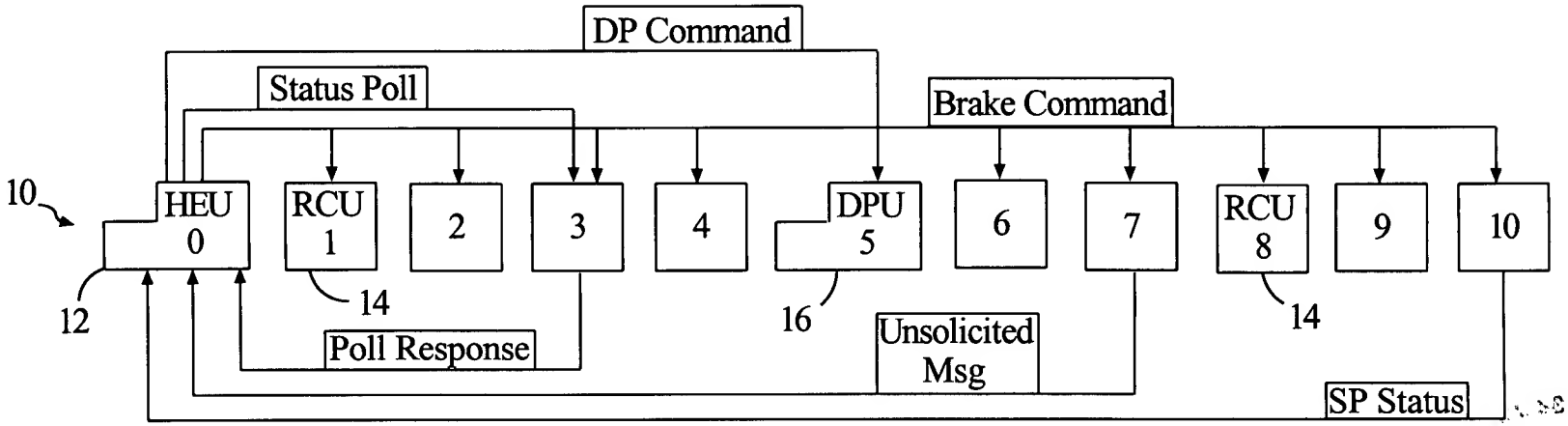

FIGURE 2

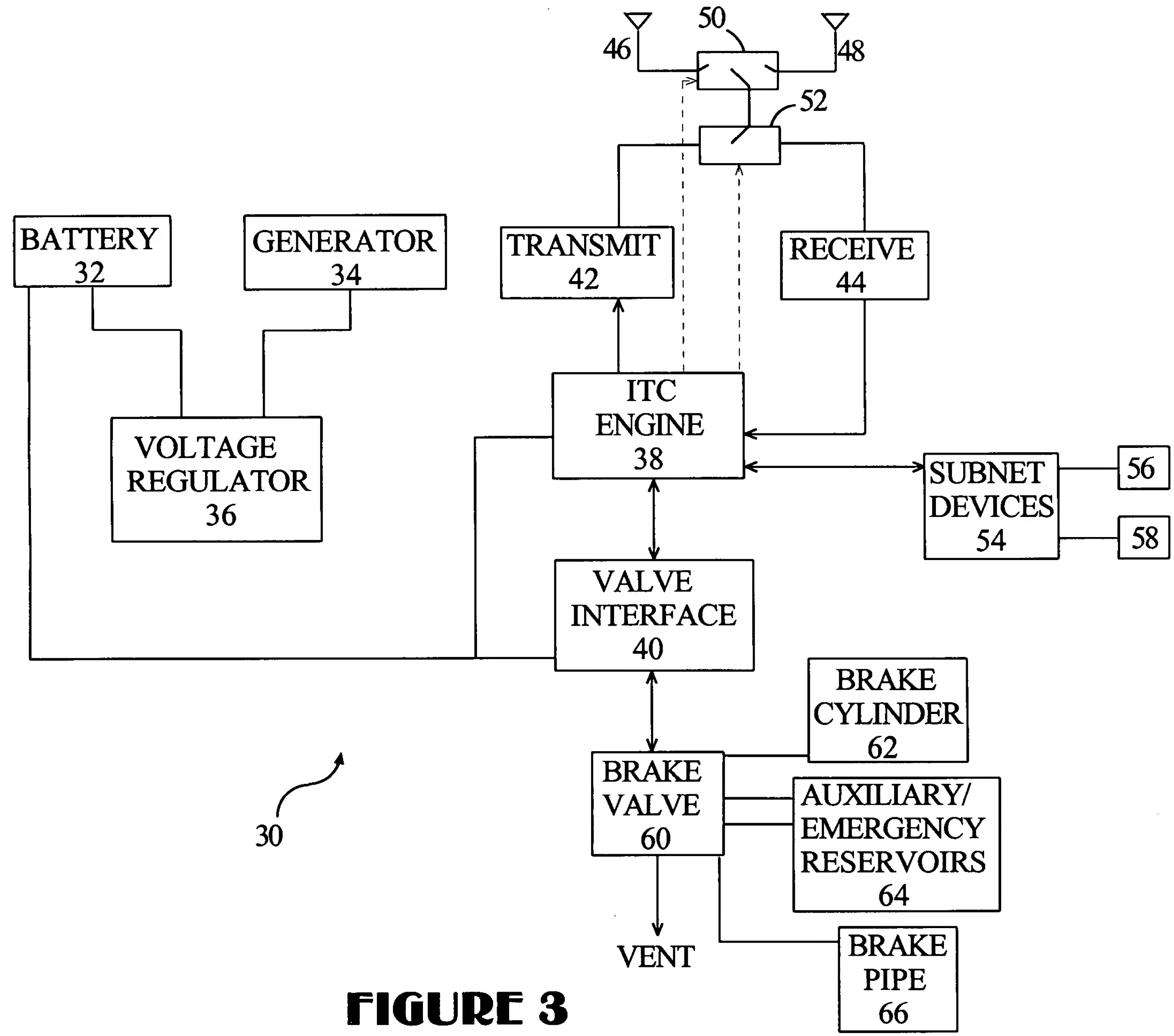
46
50
48
52
TRANSMIT 42
RECEIVE 44
BATTERY 32
GENERATOR 34
VOLTAGE REGULATOR 36
ITC ENGINE 38
SUBNET DEVICES 54
56
58
VALVE INTERFACE 40
BRAKE CYLINDER 62
BRAKE VALVE 60
AUXILIARY/ EMERGENCY RESERVOIRS 64
VENT
BRAKE PIPE 66
30

FIGURE 3

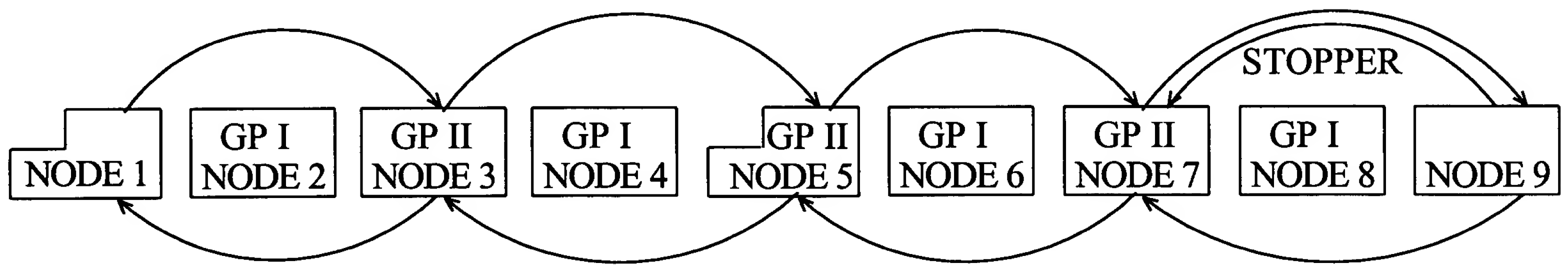
STOPPER
NODE 1
GP I
NODE 2
GP II
NODE 3
GP I
NODE 4
GP II
NODE 5
GP I
NODE 6
GP II
NODE 7
GP I
NODE 8
NODE 9

FIGURE 4

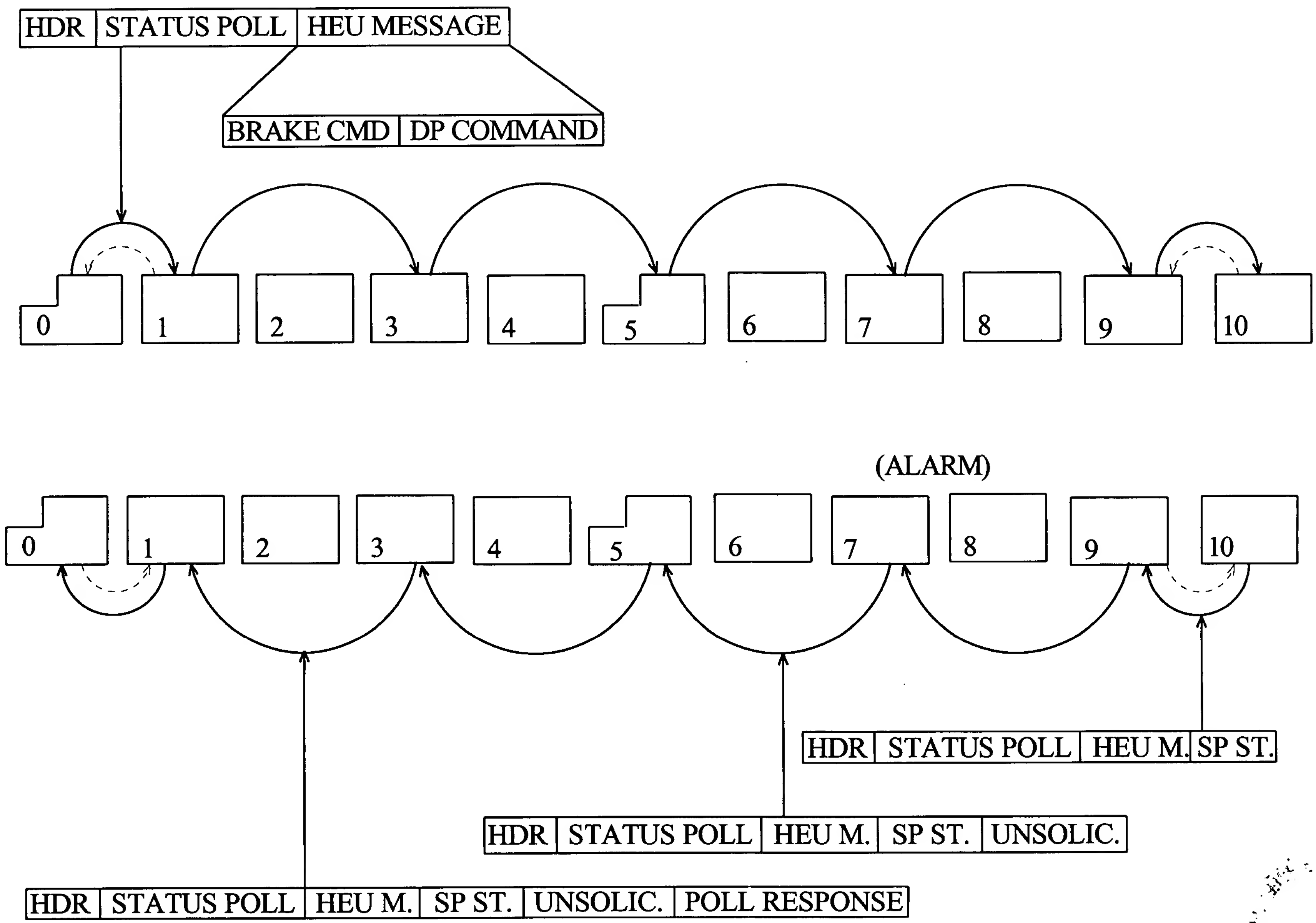
HDR
STATUS POLL
HEU MESSAGE
BRAKE CMD
DP COMMAND
0
1
2
3
4
5
6
7
8
9
10
(ALARM)
0
1
2
3
4
5
6
7
8
9
10
HDR
STATUS POLL
HEU M.
SP ST.
HDR
STATUS POLL
HEU M.
SP ST.
UNSOLIC.
HDR
STATUS POLL
HEU M.
SP ST.
UNSOLIC.
POLL RESPONSE

FIGURE 5

Relay Group Identification Number Table							
Groups (nominal hop distance)	ID no	A	B	C	D	E	F
Default Single Relay Group	0	0 0x00	-	-	-	-	-
Single Relay Group Solution	1	1 0x01	-	-	-	-	-
Two Relay Group Solution	2	2 0x02	3 0x03	-	-	-	-
Three Relay Group Solution	3	4 0x04	5 0x05	6 0x06	-	-	-
Four Relay Group Solution	4	7 0x07	8 0x08	9 0x09	10 0x0A	-	-
Five Relay Group Solution	5	11 0x0B	12 0x0C	13 0x0D	14 0x0E	15 0x0F	-
Six Relay Group Solution	6	16 0x10	17 0x11	18 0x12	19 0x13	20 0x14	21 0x15

FIGURE 6

Byte	Bits	Name	Description
0-3	1	Write-over Flag	1 = write over, 0 = no write over.
	1	Rebound Flag	1 = wrap at reversing node, 0= delete at reversing node.
	10	Source Address	Logical Node Address of the ADU's source
	10	Destination Address 1	First Logical Node Address in destination address range
	10	Destination Address 2	Last Logical Node Address in destination address range.
4	8	ADU Length	Length of current ADU (less the eight bytes of overhead.) This value is 0 - 64, or 0 - 255 for special code download ADUs.
5	8	Source Application ID	Defines the source application (to be used foe addressing responses).
6	8	Destination Application ID	Defines the destination application.
7	8	ADU Type	Application specific identifier for the ADU.
8-n	-	Embedded ADU data	0 to 64 byte ADU data field (or 0 to 255 byte ADU data field for code download ADUs.)
n+1	8	Checksum	2's Complement checksum calculated on the entire packet

FIGURE 7

Byte	Bits	Name	Description
0-1	16	Circuit Identification Code (LSBs)	Low order 16 bits of the 24 bit circuit identification code for the communications circuit associated with the packet.
2	8	Circuit Identification Code (MSB)	High order 8 bits of the 24 bit circuit identification code for the communications circuit associated with the packet.
3	1	Token Type	1 = SMOKEN, 0 = Normal
3	1	reserved	Currently unused bit.
3	5	Sequence Count	Sequence count identifies each new token transmitted from pilot node.
3	1	Direction Flag	Marks packet as inbound or outbound, 1 = inbound.
4	4	Hop Distance	Value that, when added to the Destination Node Address, indicates the source of the transmission.
4-5	12	Hop Count	Hop count value for the current transmission of this packet.
6	1	Short Path Flag	Set for a non-SMOKEN token that was reversed before the reversing node.
6	5	Relay Group	Relay group associated with the packet.
6-7	10	Destination Node Address	Next node to relay current token for synchronous token, local node address for an asynchronous transmission.
8	2	reserved	Currently unused field.
8	6	ADU Count	Number of ADU's embedded in current RDU.
9-n	-	Embedded ADUs	Zero to sixty three embedded ADU elements.
n - (n+3)	32	Cyclic Redundancy Check (CRC)	Packet verification CRC based on CCITT standard algorithm.

FIGURE 8

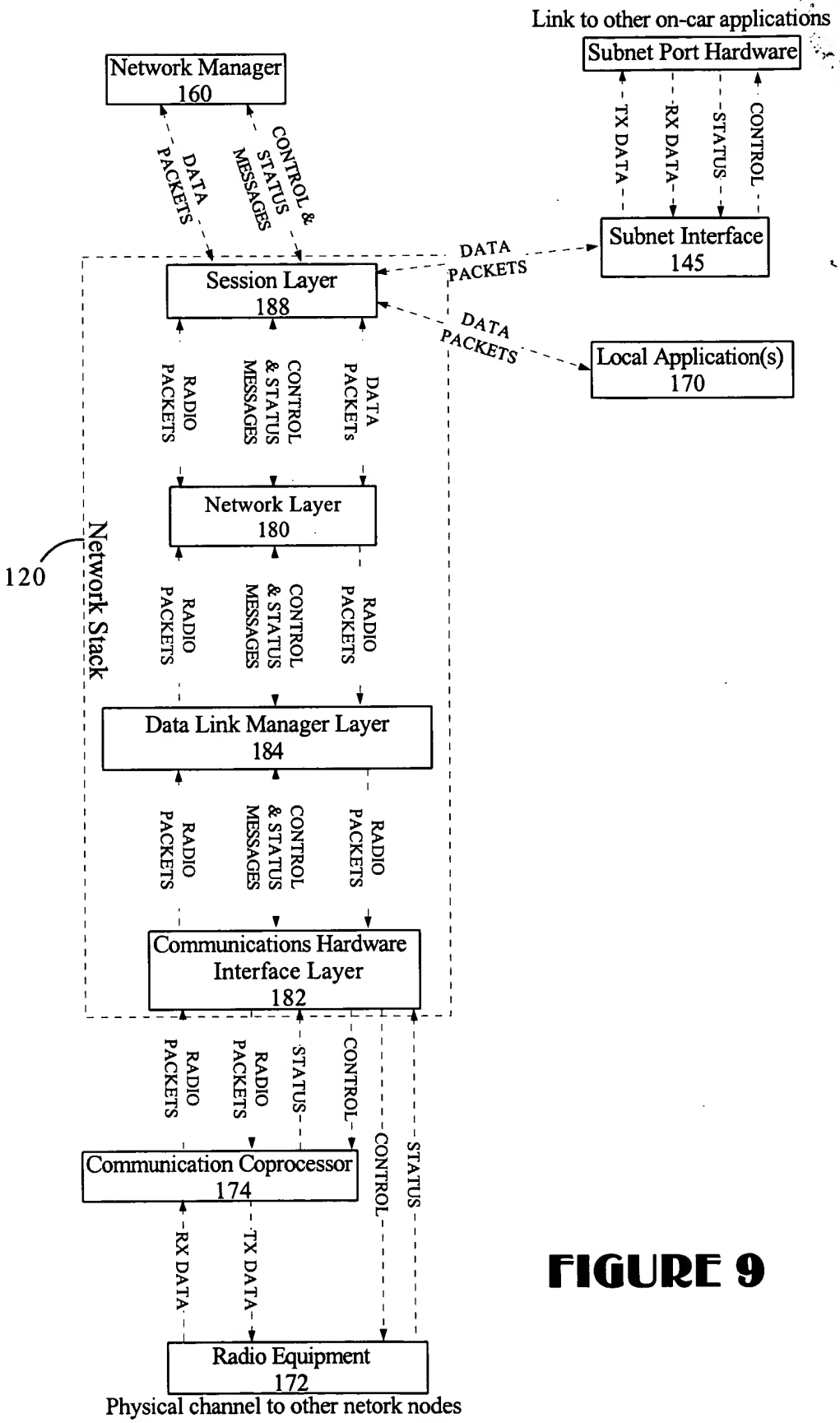

FIGURE 9